

REMARKS

Claims 1-6, all the claims pending in the application, stand rejected. Claims 1, 3 and 5 are amended. Claims 2, 4 and 6 are cancelled.

The amendment of step (a) or magnification ratio correcting means is supported by the specification from page 15, line 21 to page 16, line 3. The amendment of step (b) or blur correcting means is supported by the specification from page 16, line 4 to page 18, line 16, especially, page 16, lines 23-26.

Double Patenting

Claims 1-6 are rejected on the grounds of non-statutory obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 7,171,031 in view of “Physical Principles of Medical Imaging”, 2nd Edition (Sprawls, Jr.), Ch. 18, (pp. 253-265) (1993). This rejection is traversed for at least the following reasons.

Applicants are submitting herewith a Terminal Disclaimer that would remove this basis for rejection.

Claim Rejections - 35 U.S.C. § 103

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gureyev in view of Applicant’s admitted prior art and in view of Sprawls.

As to claims 2, 4 and 6, the rejection is moot in view of the cancellation of the claims.

With respect to claims 1, 3 and 5, as now amended, the prior art is deficient and does not teach or suggest the invention. Applicants respectfully submit that none of the “admitted prior art,” Gureyev or Sprawls, alone or in combination, discloses the four expressly recited features of correcting blur amount by (1) filter processing using a blur function (2) according to a distance from the object (3) for at least one of first and second detection data (4) so as to uniform blur amounts of said first and second detection data caused by a focal size of a radiation source.

Admitted Prior Art

The Examiner adds the “admitted prior art” to the previous rejection. The “admitted prior art” is not identified, thereby inherently rendering the rejection indefinite and incomplete. The only “prior art” noted in the Background of the Invention of the present application is Gureyev (T. E. Gureyev et al., “Hard X-ray quantitative non-interferometric phase-contrast imaging”, SPIE Vol. 3659 (1999) pp. 356-364, (previously cited) and B. E. Allman et al., “Noninterferometric quantitative phase imaging with soft x rays”, J. Optical Society of America A, Vol. 17, No. 10 (October 2000) pp. 1732-1743 (not previously cited. The remainder of the discussion concerns “**conventional**” approaches that are not admitted to be prior art.

The Examiner has only two references available as possible prior art, and one of them already is cited. The other, Allman, has nothing to do with blur, the problem with blur that Applicant identified or the possible solutions. Allman is merely cited for a discussion of TIE (transport of intensity equation), which is the basic equation of phase restoration.

Applicants have demonstrated that the added teachings (1) are not relevant, (2) are not prior art, (3) are incomplete or (4) are added on the basis of Applicant’s own teachings. Any of the foregoing is improper and the rejection should be withdrawn or supplemented to provide an adequate clarity and basis for support.

In any event, the none of the “admitted prior art” teaches correcting blur amount by (1) filter processing using a blur function (2) according to a distance from the object (3) for at least one of first and second detection data (4) so as to uniform blur amounts of said first and second detection data caused by a focal size of a radiation source

Sprawls

Sprawls does not teach correcting blur amount by (1) filter processing using a blur function (2) according to a distance from the object (3) for at least one of first and second detection data (4) so as to uniform blur amounts of said first and second detection data caused by a focal size of a radiation source, as now claimed.

Applicants respectfully submit that the specific language in each of limitations (a), (b), (c) and (d) of the rejected claims that are directly related to a blur amount, and data that has been corrected for such blur amount, especially as now amended, is not found in Sprawls. Applicants again stress that it is not simply the consideration of blur that is novel and unobvious in the presently claimed invention, but it is the specific way in which the blur amount is considered and corrected to achieve accurate phase data.

Sprawls is extremely basic and contains no specific discussion with regard to the correction of blur amounts for detection data at two different image planes. Moreover, Sprawls has no consideration of differences in image data at different focal lengths or distances from an object. None of the Figures or the discussion in Sprawls concerns different distances of an image plane from an object under radiation exposure. Accordingly, Sprawls has no teaching that would be relevant to any modification of the previously cited prior art reference to Gureyev.

In response, at page 10 of the Office Action, the Examiner simply asserts that the fact that Sprawls does not disclose differences in image data is not relevant to a rejection under § 103. The Examiner asserts that a person of ordinary skill at the time of the invention, after seeing the blur in the differential data of Gureyev and the admitted prior art can apply “known blur correction methods such as those disclosed by Sprawls, to achieve the predictable result of blur corrected differential data.” The Examiner asserts that Applicant has submitted nothing to show an unpredictable result.

First, the Examiner’s statement is an admission that Sprawls is inadequate to disclose the use of differences in image data.

Second, the Examiner’s statement is an admission that Applicant’s basic argument with respect to Sprawls, namely that Sprawls is wholly deficient and overly simplistic, is valid. In short, nothing in Sprawls would lead someone to consider how and in what manner to make modifications of Gureyev or the other admitted prior art cited by the Applicant to achieve the present invention. Applicant already has pointed out that there is no teaching or suggestion of the detection of data at two different image planes or even differences in image data.

Third, the Examiner clearly is using Applicant's own teachings to identify even the need for this structure and the processing of differences in image data at different focal lengths or distances. There is no such teaching in any of the cited art. In the absence of such teaching, the Examiner has no basis for picking and choosing among a wide variety of techniques. Moreover, nothing in any of the prior art suggested the claimed technique. Thus, the rejection would necessarily fail.

Gureyev

With regard to the deficiencies in Gureyev, (1) as expressly identified in the present specification and (2) as previously asserted by the Applicant, the Examiner points to Applicant's remarks at page 17 with regard to phase information obtained by using plural sets of detection data having non-uniform blur amounts as in a **conventional method**. The Examiner notes that "the Applicant is arguing for patentability quite simply because Gureyev does not explicitly disclose these features using the exact wording of the claim." Here, the "exact wording," especially as found in the amended claims, is the feature invented by the Applicant. In the absence of these claim limitations in the prior art, the claim must be patentable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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